

## **REMARKS**

Reconsideration of this application, as amended, is respectfully requested.

Claims 13, 17-22 and 27-31 remain pending. Claims 13, 17-22 and 27-31 have been rejected.

Claim 13 has been amended. No claims have been cancelled. No claims have been added. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicants submit that the amendments do not add new matter.

### **Rejections Under 35 U.S.C. § 103**

The Examiner rejected claims 13, 17-22, and 27-31 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,957,875 to Akbar, et al. ("Akbar"), in view of U.S. Patent No. 5,024,957 to Hame, et al., ("Hame").

Applicants have amended claim 13 to include an emitter stack disposed immediately above the epitaxial base layer above the substrate and between the first isolation structure and the second isolation structure, wherein the emitter stack has an emitter stack perimeter; and a recess disposed immediately adjacent to the emitter stack and disposed between the emitter stack and the first isolation structure, wherein the recess exposes a collector tap having a collector tap perimeter, wherein the emitter stack and the recess share a boundary, and wherein the emitter stack perimeter and the collector tap perimeter share a co-linear boundary.

The Examiner reference to Akbar (Figure 8) discloses a vertical bipolar transistor having narrow width emitter. More specifically, Akbar discloses that the transistor has emitter layer 16, base layer 14, and collector layer 12. In particular, Akbar discloses collector contact extension layer 26 that contacts collector layer 12 (Akbar, col. 3, lines 53-66, Figure 8). In contrast, amended claim 13 refers to the emitter stack having an emitter stack perimeter, and a collector tap having a collector tap perimeter, wherein the emitter stack perimeter and the collector tap

perimeter share a co-linear boundary.

Haramé, in contrast, discloses forming a transistor having an ultra-thin base (Abstract), and similarly to Akbar, fails to disclose, teach, or suggest to the emitter stack having an emitter stack perimeter, and a collector tap having a collector tap perimeter, wherein the emitter stack perimeter and the collector tap perimeter share a co-linear boundary, as recited in amended claim 13.

Thus, neither Akbar, Haramé, nor any combination thereof discloses, teaches, or suggests the emitter stack having an emitter stack perimeter, and a collector tap having a collector tap perimeter, wherein the emitter stack perimeter and the collector tap perimeter share a co-linear boundary, as recited in amended claim 13.

Therefore, applicants respectfully submit that amended claim 13 is not obvious under 35 U.S.C. § 103(a) over Akbar, in view of Haramé.

Because claims 17-22, and 27-31 depend from amended claim 13 and add additional limitations, applicants respectfully submit that claims 17-22, and 27-31 are not obvious under 35 U.S.C. § 103(a) over Akbar, in view of Haramé.

## CONCLUSION


It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. If there are any additional charges, please charge Deposit Account No. 02-2666 for any fee deficiency that may be due.

Respectfully submitted,

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